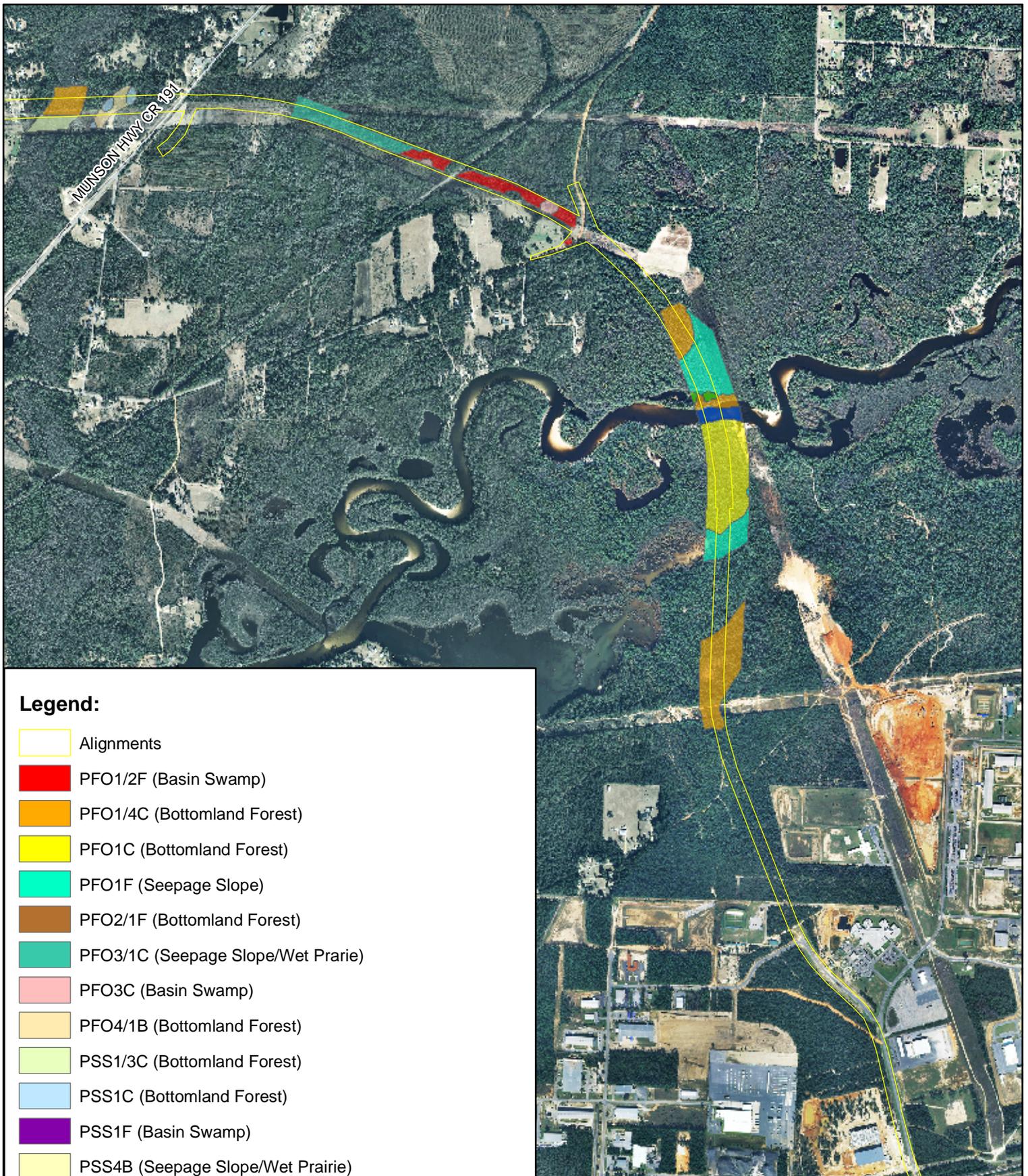


## Appendix E: Wetland Exhibit



**Legend:**

- Alignments
- PFO1/2F (Basin Swamp)
- PFO1/4C (Bottomland Forest)
- PFO1C (Bottomland Forest)
- PFO1F (Seepage Slope)
- PFO2/1F (Bottomland Forest)
- PFO3/1C (Seepage Slope/Wet Prairie)
- PFO3C (Basin Swamp)
- PFO4/1B (Bottomland Forest)
- PSS1/3C (Bottomland Forest)
- PSS1C (Bottomland Forest)
- PSS1F (Basin Swamp)
- PSS4B (Seepage Slope/Wet Prairie)
- PUBF (Freshwater Pond)
- PUBHh (Freshwater Pond)
- R2UBH (River)

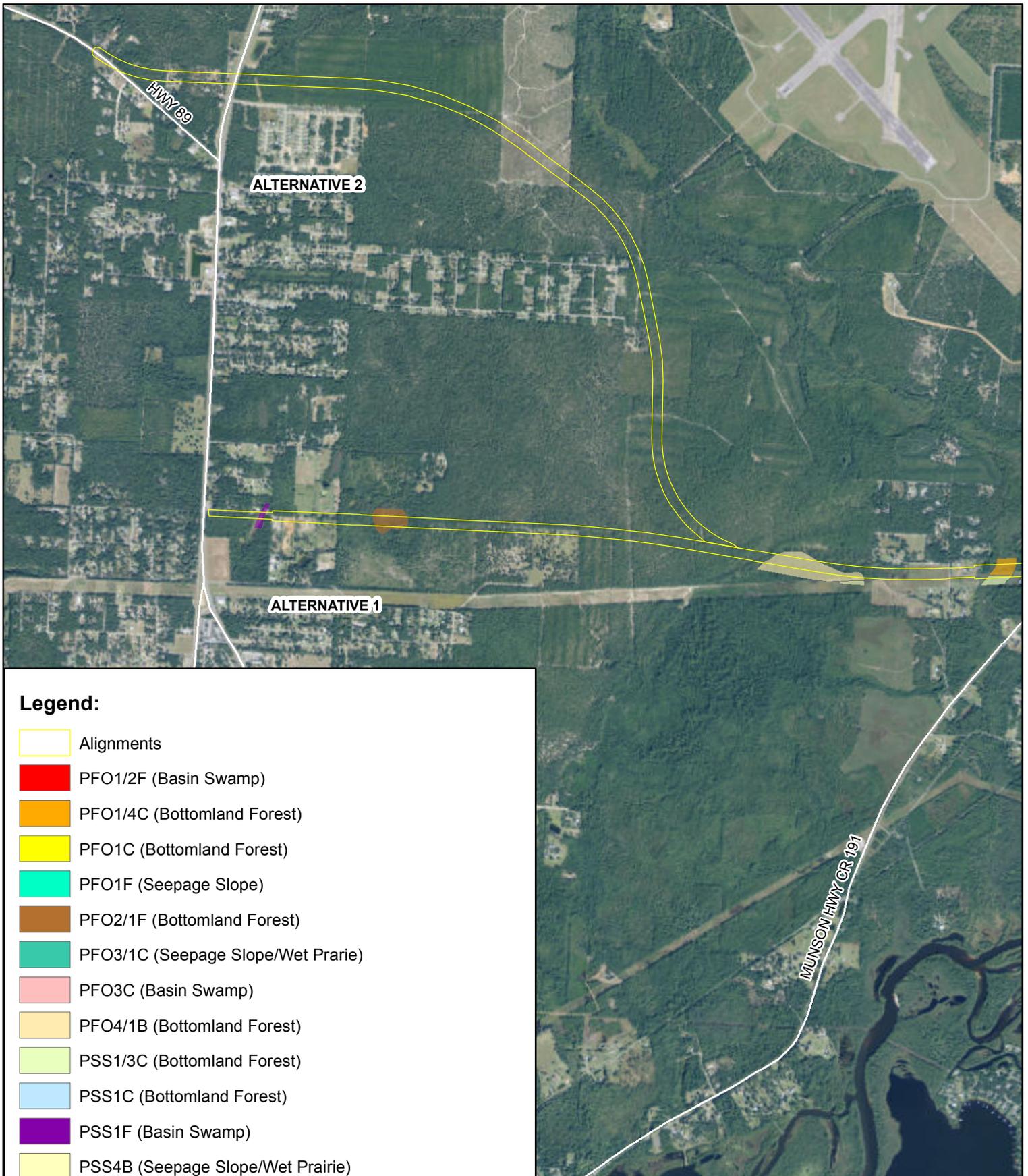
  
 1:18,000  
 2010 True Color  
 Aerial



**NWI Classification Map 1**  
**SR 87 Connector PD&E**

 Ecological Resource  
 Consultants, Inc.

bwp 6-4-14  
 ERC# 12-159



**Legend:**

- Alignments
- PFO1/2F (Basin Swamp)
- PFO1/4C (Bottomland Forest)
- PFO1C (Bottomland Forest)
- PFO1F (Seepage Slope)
- PFO2/1F (Bottomland Forest)
- PFO3/1C (Seepage Slope/Wet Prairie)
- PFO3C (Basin Swamp)
- PFO4/1B (Bottomland Forest)
- PSS1/3C (Bottomland Forest)
- PSS1C (Bottomland Forest)
- PSS1F (Basin Swamp)
- PSS4B (Seepage Slope/Wet Prairie)
- PUBF (Freshwater Pond)
- PUBHh (Freshwater Pond)
- R2UBH (River)

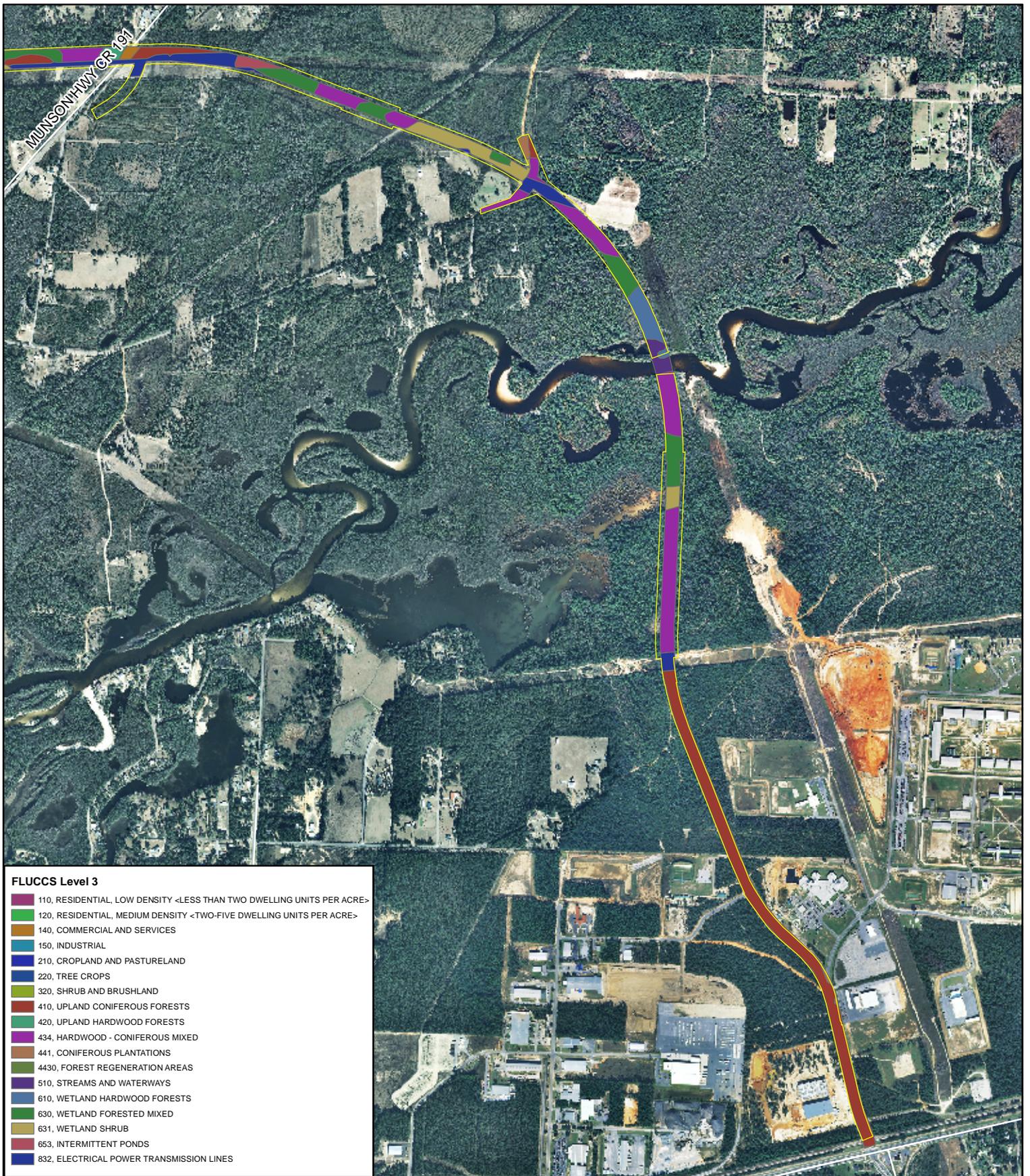
1:30,000  
 2010 True Color  
 Aerial

0 750 1,500 3,000 4,500 Feet

**NWI Classification Map 2**  
**SR 87 Connector PD&E**

Ecological Resource  
 Consultants, Inc.

JJL 7-30-15  
 ERC# 15-126



**FLUCCS Level 3**

110, RESIDENTIAL, LOW DENSITY <LESS THAN TWO DWELLING UNITS PER ACRE>
120, RESIDENTIAL, MEDIUM DENSITY <TWO-FIVE DWELLING UNITS PER ACRE>
140, COMMERCIAL AND SERVICES
150, INDUSTRIAL
210, CROPLAND AND PASTURELAND
220, TREE CROPS
320, SHRUB AND BRUSHLAND
410, UPLAND CONIFEROUS FORESTS
420, UPLAND HARDWOOD FORESTS
434, HARDWOOD - CONIFEROUS MIXED
441, CONIFEROUS PLANTATIONS
4430, FOREST REGENERATION AREAS
510, STREAMS AND WATERWAYS
610, WETLAND HARDWOOD FORESTS
630, WETLAND FORESTED MIXED
631, WETLAND SHRUB
653, INTERMITTENT PONDS
832, ELECTRICAL POWER TRANSMISSION LINES

**Legend:**



1:18,000  
2010 True Color  
Aerial

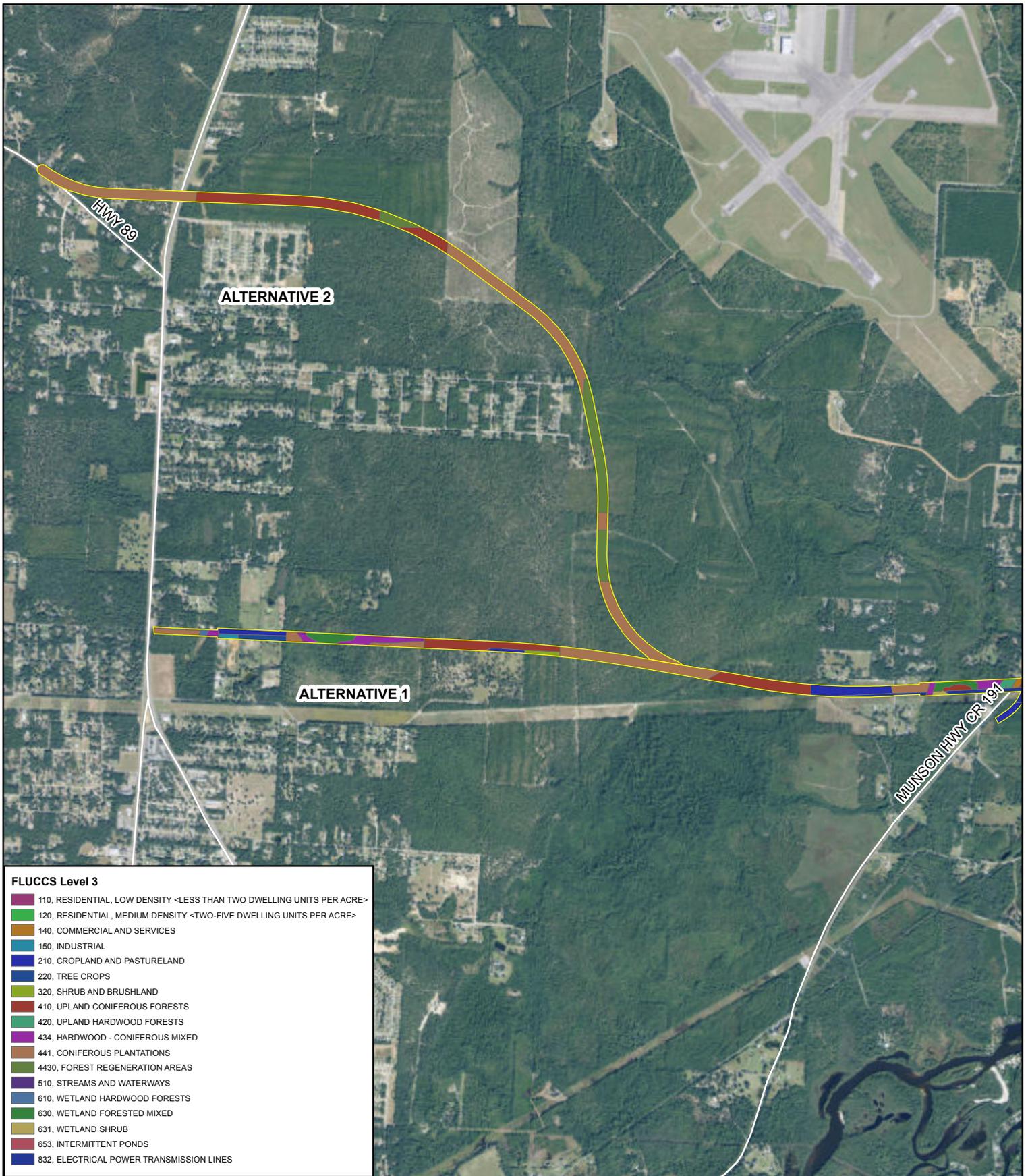


**FLUCCS Map 1**

**SR 87 Connector PD&E**

**erc** Ecological Resource  
Consultants, Inc.

ERC# 09-143



**FLUCCS Level 3**

110. RESIDENTIAL, LOW DENSITY <LESS THAN TWO DWELLING UNITS PER ACRE>
120. RESIDENTIAL, MEDIUM DENSITY <TWO-FIVE DWELLING UNITS PER ACRE>
140. COMMERCIAL AND SERVICES
150. INDUSTRIAL
210. CROPLAND AND PASTURELAND
220. TREE CROPS
320. SHRUB AND BRUSHLAND
410. UPLAND CONIFEROUS FORESTS
420. UPLAND HARDWOOD FORESTS
434. HARDWOOD - CONIFEROUS MIXED
441. CONIFEROUS PLANTATIONS
4430. FOREST REGENERATION AREAS
510. STREAMS AND WATERWAYS
610. WETLAND HARDWOOD FORESTS
630. WETLAND FORESTED MIXED
631. WETLAND SHRUB
653. INTERMITTENT PONDS
832. ELECTRICAL POWER TRANSMISSION LINES

**Legend:**

 Alignments



**FLUCCS Map 2**  
**SR 87 Connector PD&E**



**Legend:**

 Alignments

**UMAM Polygons**

 1, BOTTOMLAND FOREST, Shading

 1A, BOTTOMLAND FOREST, Direct

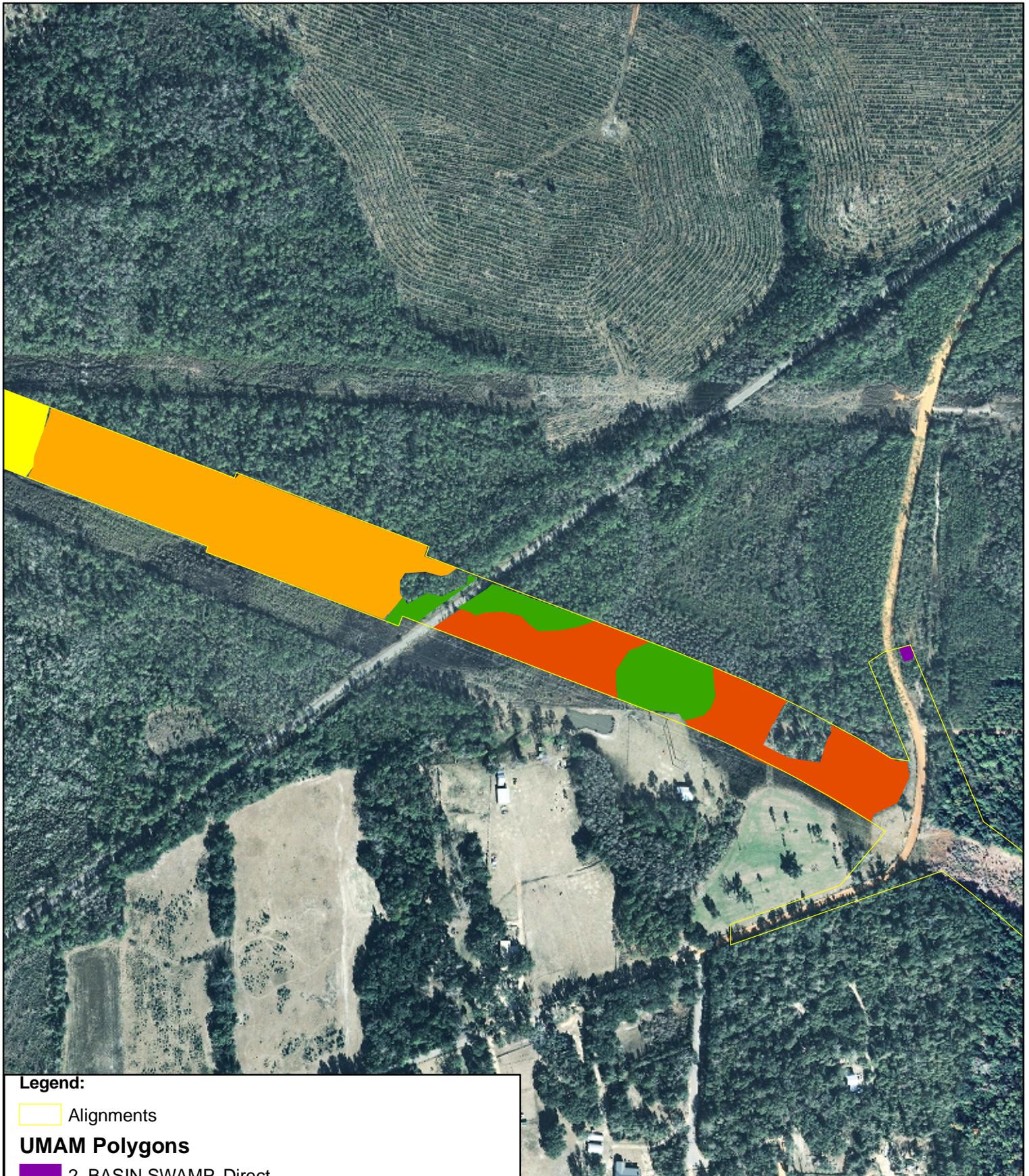
  
 1:15,600  
 2010 True Color  
 Aerial



**UMAM**  
**Polygons 1A & 1**  
**SR 87 Connector PD&E**

 Ecological Resource  
 Consultants, Inc.

ERC# 09-143



**Legend:**

 Alignments

**UMAM Polygons**

 2, BASIN SWAMP, Direct

 3, SEEPAGE SLOPE / WET PRAIRIE, Shading

 4, BASIN SWAMP, Shading

 5, SEEPAGE SLOPE / WET PRAIRIE, Direct

 6, BASIN SWAMP, Direct



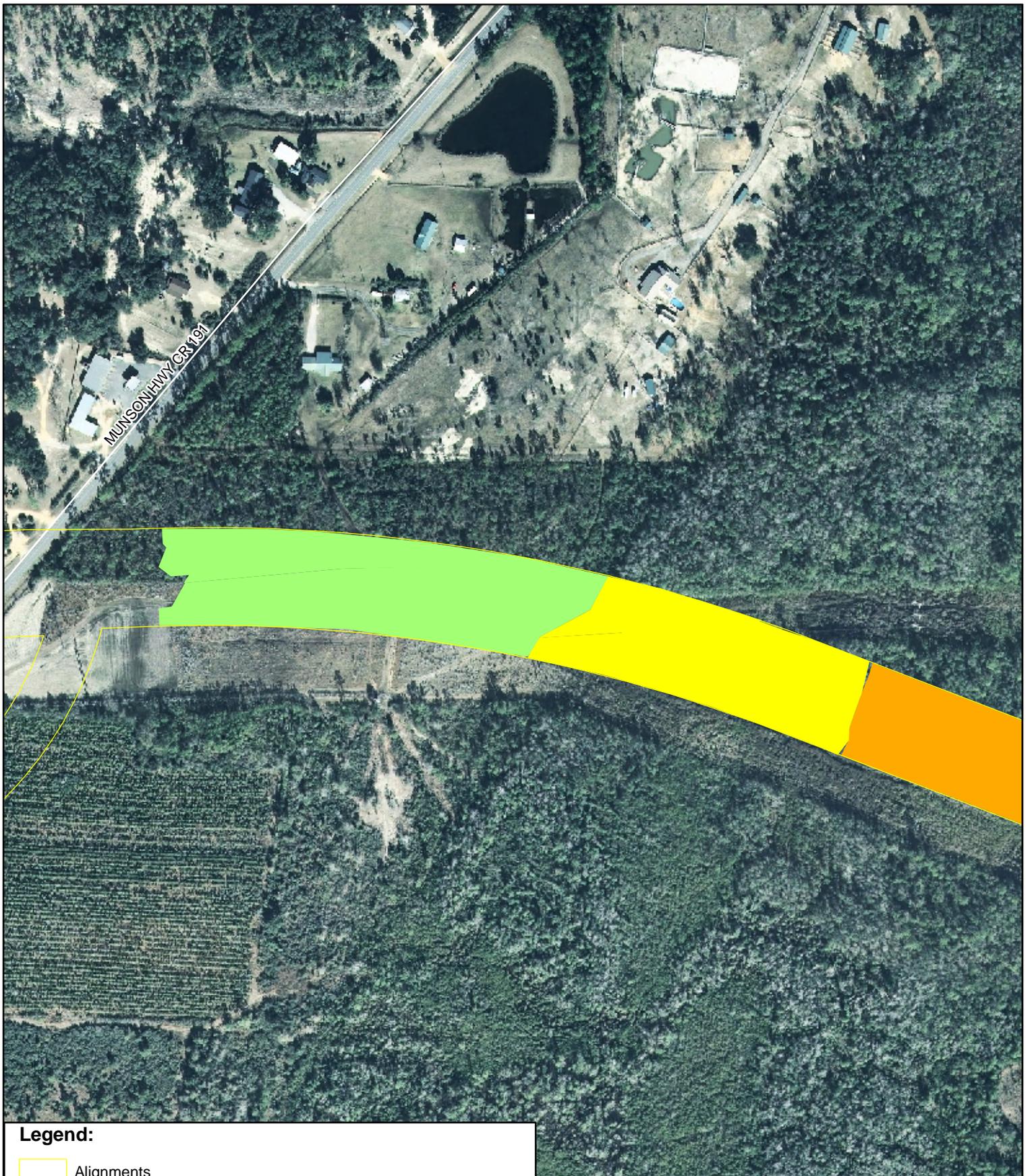
1:4,800  
2010 True Color  
Aerial



**UMAM**  
**Polygons 2, 3, 4, & 5**  
**SR 87 Connector PD&E**

 Ecological Resource  
Consultants, Inc.

dv 9.4.12  
ERC# 09-143



**Legend:**

- Alignments
- UMAM Polygons**
- 5, SEEPAGE SLOPE / WET PRAIRIE, Direct
- 6, BASIN SWAMP, Direct
- 7, SEEPAGE SLOPE / WET PRAIRIE, Direct



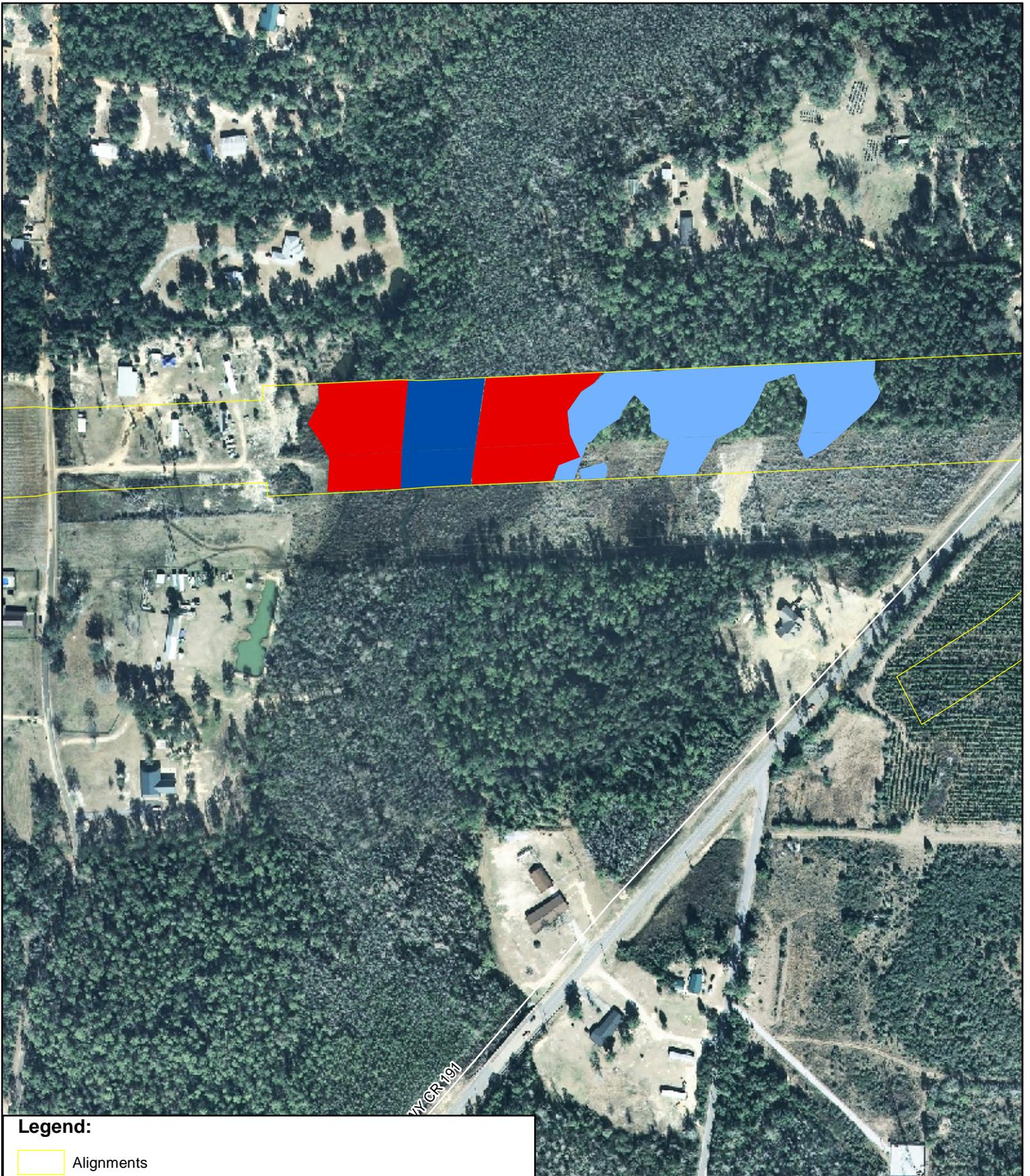
1:3,600  
2010 True Color  
Aerial



**UMAM**  
**Polygons 5, 6, & 7**  
**SR 87 Connector PD&E**

**Ecological Resource  
Consultants, Inc.**

ERC# 09-143



**Legend:**

 Alignments

**UMAM Polygons**

 8, SEEPAGE SLOPE / WET PRAIRIE, Shading

 9, BOTTOMLAND FOREST, Shading

 9A, BOTTOMLAND FOREST, Direct



1:3,600

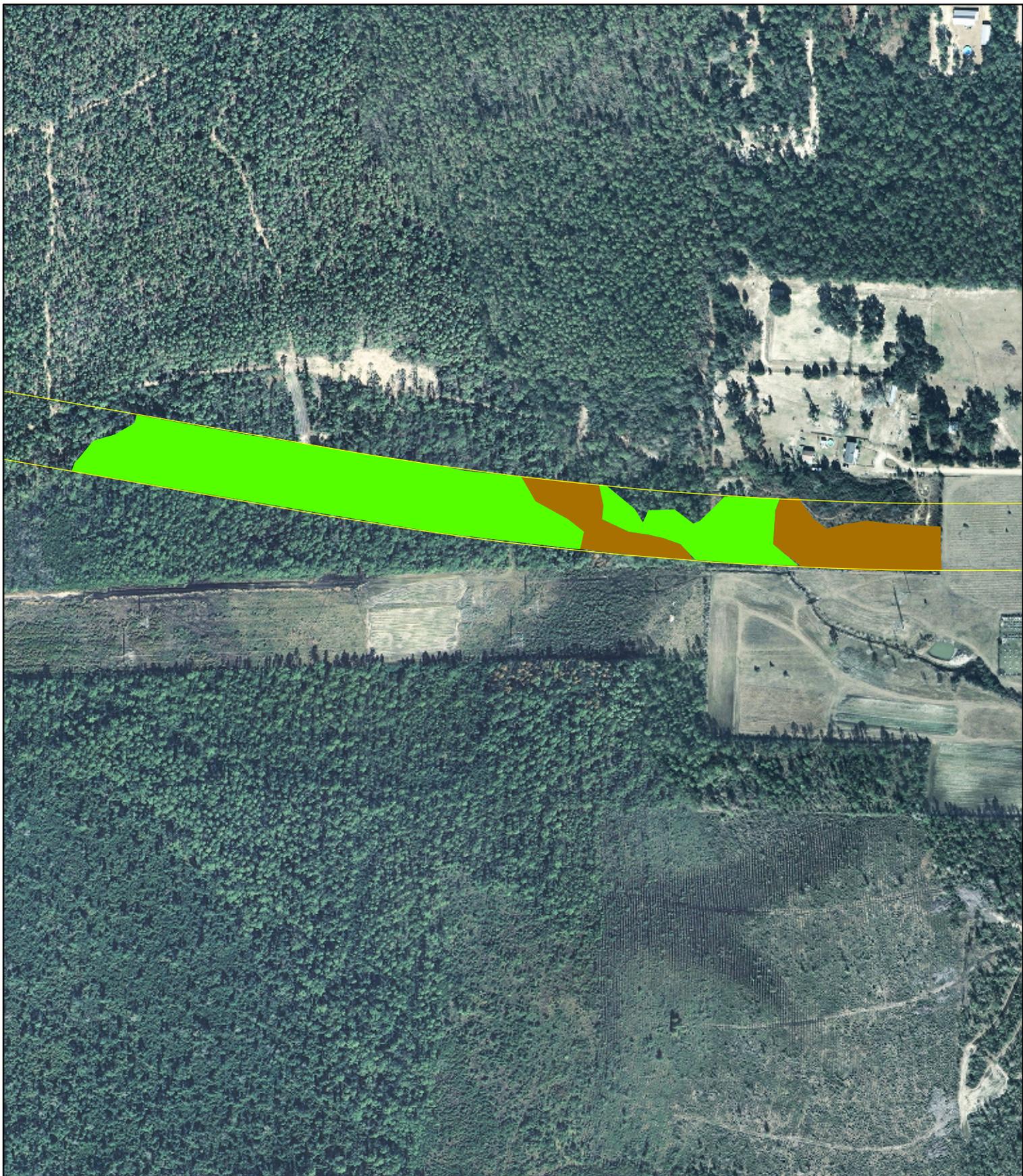
2010 True Color  
Aerial



**UMAM**  
**Polygons 8, 9, & 9A**  
**SR 87 Connector PD&E**

 Ecological Resource  
Consultants, Inc.

ERC# 09-143



**Legend:**

 Alignments

**UMAM Polygons**

 10, BASIN SWAMP, Direct

 11, SEEPAGE SLOPE / WET PRAIRIE, Direct



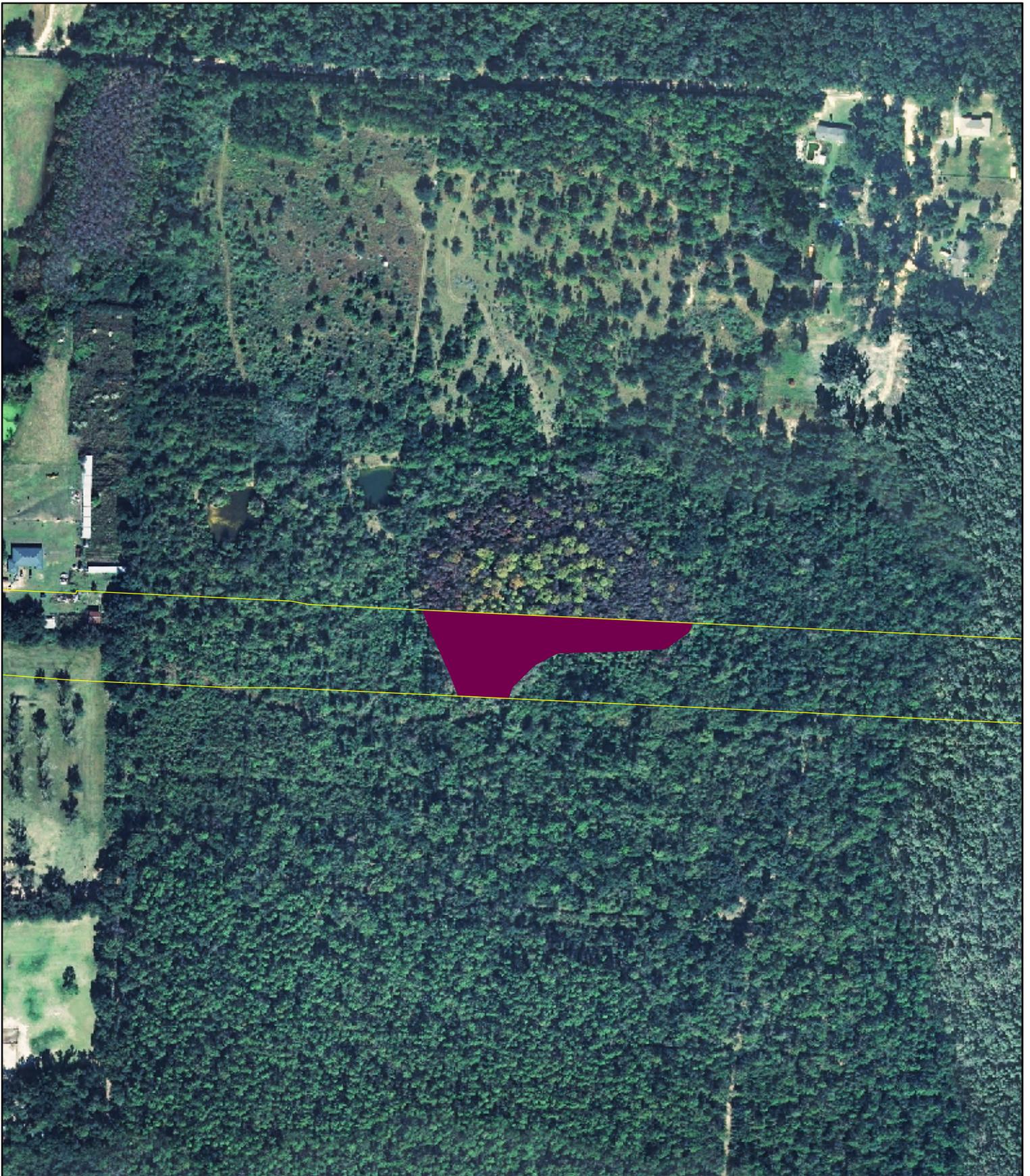
1:4,800  
2010 True Color  
Aerial



**UMAM**  
**Polygons 10 & 11**  
**SR 87 Connector PD&E**

 Ecological Resource  
Consultants, Inc.

ERC# 09-143



**Legend:**

 Alignment Alternative 1

**UMAM Polygons**

 12, DOME SWAMP, Direct



1:3,600  
2010 True Color  
Aerial



**UMAM**  
**Polygon 12**  
**SR 87 Connector PD&E**

 Ecological Resource  
Consultants, Inc.

ERC# 09-143



**Legend:**

 Alignment Alternative 1

**UMAM Polygons**

 13, SEEPAGE SLOPE / WET PRAIRIE, Direct



1:1,200  
2010 True Color  
Aerial



**UMAM  
Polygon 13  
SR 87 Connector PD&E**

 Ecological Resource  
Consultants, Inc.

ERC# 09-143



MUNSON HWY CR 197

**Legend:**

-  Alignments
-  12, Indirect and Cumulative Adj. Direct
-  13, Indirect and Cumulative Impacts Adj. Shading
-  ERC Delineated Wetlands

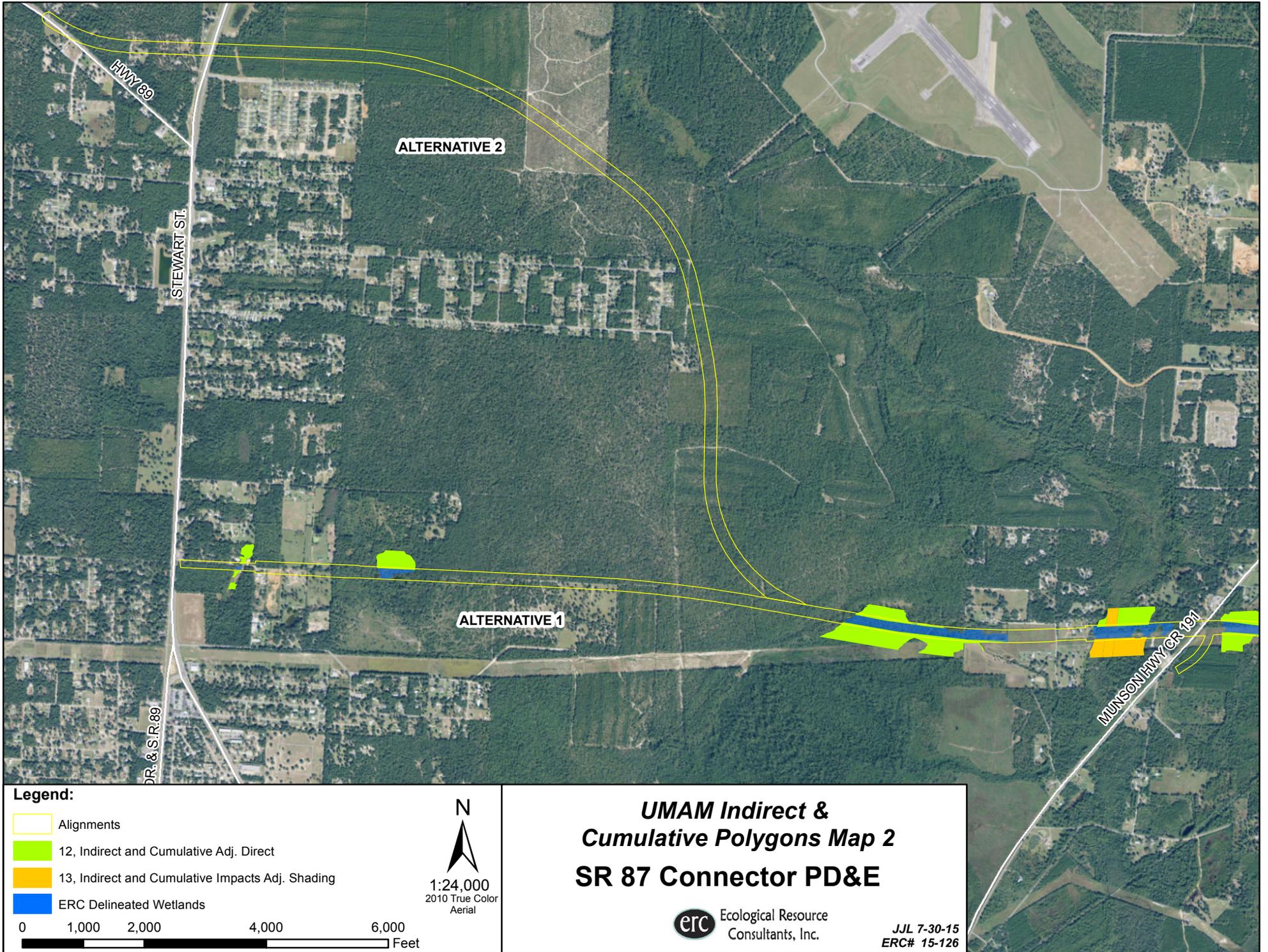
  
 1:12,000  
 2010 True Color  
 Aerial



**UMAM Indirect &  
 Cumulative Polygons Map 1**  
**SR 87 Connector PD&E**

 Ecological Resource  
 Consultants, Inc.

dv 9.4.12  
 ERC# 09-143



**Legend:**

- Alignments
- 12, Indirect and Cumulative Adj. Direct
- 13, Indirect and Cumulative Impacts Adj. Shading
- ERC Delineated Wetlands



**UMAM Indirect &  
Cumulative Polygons Map 2  
SR 87 Connector PD&E**

**erc** Ecological Resource  
Consultants, Inc.

JL 7-30-15  
ERC# 15-126

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 1	
FLUCCs code 615	Further classification (optional) FNAI - Bottomland Forest		Impact or Mitigation Site? Impact (Shading)	Assessment Area Size 15.13
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) OFW		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetlands are the floodplain of the Blackwater River, which flows south and west into the Pensacola Bay.				
Assessment area description The floodplain of the Blackwater River contains a high species diversity of hardwood evergreen and deciduous trees in the canopy and subcanopy. There is limited development consisting of single family homes to the north and institutional and industrial development to the south. There are currently no bridges within this section of the river; however, navigation in this area is prohibited.				
Significant nearby features State Road 90, Santa Rosa County jail, Milton		Uniqueness (considering the relative rarity in relation to the regional landscape.) The Blackwater River is a unique landscape feature within northern Santa Rosa County and this section is an Outstanding Florida Waterway with potential Gulf sturgeon habitat.		
Functions The floodplains are high quality wetlands that collect and convey water to Pensacola Bay. The river is highly utilized by wildlife for cover and foraging. The intact floodplain help prevent erosion.		Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the the river is listed as critical habitat for the Gulf sturgeon.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):				
Additional relevant factors: This floodplain area is not proposed for direct impact. There are only minor impacts, primarily from shading, proposed since the area will be bridged.				
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 10/1/2011, update February 2013		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 1 -Blackwater River Bottomland Forest
Impact or Mitigation Impact (Shading)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2011, update Feb 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
---

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	the impact area is relatively intact on the south side of the river; however, the area on the northern side of the river runs adjacent to the powerline ROW. The ROW area have been cleared of canopy and subcanopy vegetation and some erosion and rutting is present. There are currently no impediments to wildlife species and spanning this area with a bridge will reduce future negative impact to wildlife movement.
w/o pres or current	
with	
9	7

.500(6)(b)Water Environment (n/a for uplands)	The river appears to have excellent water quality, appropriate water inputs, and evidence of a typical flooding regime. The floodplain wetlands adjacent to the river provide adequate water filtration and stabilize the soil to prevent erosion. The water flow in the river is currently unobstructed. The use of a bridge will help keep the floodplain vegetation intact to continue to stabilize the soil surface. There will also be stormwater controls on the bridge to collect untreated stormwater and convey it to treatment ponds. The piling supported bridge will not significantly impact the flow of the river.
w/o pres or current	
with	
10	9

.500(6)(c)Community structure	The floodplain area has a high diversity of canopy and subcanopy species. Portions of the polygon have been disturbed by tree falls, which typically occurs after storm events, and the northern portion of the floodplain area has been cleared and maintained as a powerline ROW. ERC located several threatened/angered plant species in the groundcover. The development plan will take the threatened species locations into account and any impacts will be minimized to the maximum extent practicable.
1. Vegetation and/or	
2. Benthic Community	
w/o pres or current	
with	
9	7

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
w/o pres	
with	
0.93	0.77

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 2.52

Delta = [with-current]
0.17

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 1A
FLUCCs code 615	Further classification (optional) FNAI - Bottomland Forest		Impact or Mitigation Site? Impact (Direct)
			Assessment Area Size 2.95
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) OFW	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetlands are the floodplain of the Blackwater River, which flows south and west into the Pensacola Bay.			
Assessment area description The floodplain of the Blackwater River contains a high species diversity of hardwood evergreen and deciduous trees in the canopy and subcanopy. There is limited development consisting of single family homes to the north and institutional and industrial development to the south. There are currently no bridges within this section of the river; however, navigation in this area is prohibited.			
Significant nearby features State Road 90, Santa Rosa County jail, Milton		Uniqueness (considering the relative rarity in relation to the regional landscape.) The Blackwater River is a unique landscape feature within northern Santa Rosa County and this section is an Outstanding Florida Waterway with potential Gulf sturgeon habitat.	
Functions The floodplains are high quality wetlands that collect and convey water to Pensacola Bay. The river is highly utilized by wildlife for cover and foraging. The intact floodplain help prevent erosion.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the the river is listed as critical habitat for the Gulf sturgeon.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  This portion of the floodplain is proposed for direct impact for the bridge approach.			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 4/1/2012, update Feb 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 1A -Blackwater River Bottomland Forest
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 4/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
---

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>0</td> </tr> </table>	9	0	<p>the impact area is relatively intact on the south side of the river; however, the area on the northern side of the river runs adjacent to the powerline ROW. The ROW area have been cleared of canopy and subcanopy vegetation and some erosion and rutting is present. There are currently no impediments to wildlife species. This polygon will be directly impacted, but a box culvert will be used to facilitate wildlife movement of amphibians, reptiles, and small mammals through the floodplain.</p>
9	0		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>10</td> <td>0</td> </tr> </table>	10	0	<p>The river appears to have excellent water quality, appropriate water inputs, and evidence of a typical flooding regime. The floodplain wetlands adjacent to the river provide adequate water filtration and stabilize the soil to prevent erosion. The water flow in the river is currently unobstructed. This polygon is proposed for direct impact; however, box culverts will be used to maintain pre-construction flow regimes through the floodplain.</p>
10	0		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>0</td> </tr> </table>	9	0	<p>The floodplain area has a high diversity of canopy and subcanopy species. Portions of the polygon have been disturbed by tree falls, which typically occurs after storm events, and the northern portion of the floodplain area has been cleared and maintained as a powerline ROW. ERC located several threatened/endangered plant species in the groundcover. The development plan will take the threatened species locations into account and any impacts will be minimized to the maximum extent practicable.</p>
9	0		

Score = sum of above scores/30 (if uplands, divide by 20)
current
w/o pres      with
0.93      0.00

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 2.75

Delta = [with-current]
0.93

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 2
FLUCCs code 617	Further classification (optional) FNAI - Basin Swamp		Impact or Mitigation Site? Impact (Direct)
			Assessment Area Size 0.04
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This is hydrologically connected to the adjacent polygon proposed for shading, Polygon 3. These wetlands connect to the Blackwater River via overland sheet flow.			
Assessment area description This basin wetland is fire suppressed with an appropriate mix of canopy and subcanopy species, but with a shrub layer of woody species that would typically be in coppice if fire regularly maintained this area.			
Significant nearby features Blackwater Heritage Trail		Uniqueness (considering the relative rarity in relation to the regional landscape.) None	
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the river is listed as critical habitat for the Gulf sturgeon.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): Oct-11	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 2 - Basin Swamp
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: Oct-11

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
---

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>0</td> </tr> </table>	9	0	<p>This is a geographically isolated wetland that has unlimited wildlife access and still provides the functions to wildlife and downstream wetlands that it would provide in optimal condition. The fire suppressed understory slightly limits the wildlife utilization of this wetland system.</p>
9	0		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>0</td> </tr> </table>	9	0	<p>This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses.</p>
9	0		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>8</td> <td>0</td> </tr> </table>	8	0	<p>The canopy of this wetland is appropriate; however the groundcover should be diverse but is not due to the fire suppressed shrub and sub-canopy.</p>
8	0		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.87      0.00

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.03

Delta = [with-current]
0.87

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number		Assessment Area Name or Number Polygon 3	
FLUCCs code 643		Further classification (optional) Seepage Slope / Wet Prairie		Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 2.02
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This seepage slope/wet prairie (ss/wp) grades into a deeper basin swamp wetland. The general water flow is to the south and west towards the Blackwater River and eventually the Pensacola Bay.					
Assessment area description The ss/wp is fire suppressed and has a dense canopy of pine and bay trees. There are portions of the wetland with a more open canopy that have allowed the growth of a diverse herbaceous groundcover.					
Significant nearby features Blackwater Heritage Trail, Frosted Flatwoods Salamander Critical Habitat Unit RFS2 Subunit A			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the river is listed as critical habitat for the Gulf sturgeon. Further, there is an historic Flatwoods salamander with critical habitat in the vicinity of this wetland.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):					
Additional relevant factors:  Located within Flatwoods Salamander critical habitat unit.					
Assessment conducted by: Dan Van Nostrand			Assessment date(s): Oct-11		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 3 - SS/WP
Impact or Mitigation Impact (Shading)	Assessment conducted by: Daniel Van Nostrand	Assessment date: Oct-11

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	This wetland polygon borders deeper basin swamp wetland polygons and provides a buffer to the deeper wetlands. There is little development surrounding this polygon so access to wildlife is not limited. This wetland is not fragmented and still provides water filtration and retention benefits to downstream receiving waterways. such as Clear Creek and Blackwater River. This wetland polygon is within the proposed Corridor 1 and Corridor 2 alignments and is proposed for a shading impact.
w/o pres or current	
with	
9	8

.500(6)(b)Water Environment (n/a for uplands)	This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for direct impact by Corridor 1 or Corridor 2. a bridge will be used to traverse this wetland area which will prevent damming and subsequent ponding of water, which would alter the wetlands outside of the corridor areas.
w/o pres or current	
with	
8	8

.500(6)(c)Community structure	The canopy in this wetland has approximately 100 trees per acre which is too dense for a typical seepage slope / wet prairie; however, there is substantial groundcover vegetation including wiregrass throughout the polygon. Typically, fires would manage these wetlands creating an open canopy and sub-canopy and encouraging growth of a diverse pyrogenic herbaceous groundcover. Approximately 20% of this wetland system has been opened up by tree falls and powerline ROWs. These opened areas had the greatest diversity and contained threatened / endangered plant species. This polygon is proposed for a shading impact by either Corridor 1 or Corridor 2. Bridging the wetland will shade the corridor area, but allow for light penetration to maintain an appropriate groundcover once the shrub layer is removed.
1. Vegetation and/or	
2. Benthic Community	
w/o pres or current	with
7	6

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	
with	
0.80	0.73

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.13

Delta = [with-current]
0.07

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 4
FLUCCs code 617	Further classification (optional) Basin Swamp		Impact or Mitigation Site? Impact (Direct)
Assessment Area Size 4.15			
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This is an interior, deeper wetland that is buffered on either side by seepage slope / wet prairie. The wetlands convey water to the south towards the Blackwater River via overland sheetflow.			
Assessment area description This basin wetland is fire suppressed with an appropriate mix of canopy and subcanopy species, but with a shrub layer of woody species that would typically be in coppice if fire regularly maintained this area.			
Significant nearby features Blackwater Heritage Trail, Frosted Flatwoods Salamander Critical Habitat Unit RFS2 Subunit A		Uniqueness (considering the relative rarity in relation to the regional landscape.) None	
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the river is listed as critical habitat for the Gulf sturgeon. Further, there is an historic Flatwoods salamander with critical habitat in the vicinity of this wetland.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): Oct-11	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 4 - Basin Swamp
Impact or Mitigation Impact (Shading)	Assessment conducted by: Daniel Van Nostrand	Assessment date: Oct-11

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	This wetland polygon is buffered by adjacent seepage slope/wet prairie and I undeveloped along its entire boundary. There is no limit to wildlife utilization and the wetland provides optimal function to downstream aquatic environments. There are no impediments downstream of this polygon and water flows via overland sheetflow to the Blackwater River an OFW. This area is proposed for a shading by either Corridor 1 or Corridor 2. Flow characteristics will be maintained by using bridge spans.
w/o pres or current	
with	
9	8

.500(6)(b)Water Environment (n/a for uplands)	This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for direct impact by Corridor 1 or Corridor 2. This wetland polygon will be bridged by corridors 1 and 2, which will help to maintain the hydrology and flow regime of this wetland.
w/o pres or current	
with	
9	8

.500(6)(c)Community structure	The canopy of this wetland is appropriate with a mix of cypress, tupelo, and large slash pine. The shrub layer is comprised primarily of myrtle-leaf holly and large titi. The groundcover is extremely diverse with wiregrass, beakrush, yellow-eyed grass, hatpins, and pitcher plants (including parrot pitcher plants and white-topped pitcher plants). Trees in the canopy may be impacted by the bridge construction, but the groundcover will stay intact.
1. Vegetation and/or	
2. Benthic Community	
w/o pres or current	with
9	6

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	with
0.90	0.73

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.69

Delta = [with-current]
0.17

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 5
FLUCCs code 643	Further classification (optional) Seepage Slope / Wet Prairie	Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 6.35
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This seepage slope/wet prairie (ss/wp) grades into a deeper basin swamp wetland. The general water flow is to the south and west towards the Blackwater River and eventually the Pensacola Bay.			
Assessment area description The ss/wp is fire suppressed and has a dense canopy of pine and bay trees.			
Significant nearby features Blackwater Heritage Trail, Frosted Flatwoods Salamander Critical Habitat Unit RFS2 Subunit A		Uniqueness (considering the relative rarity in relation to the regional landscape.) None	
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the river is listed as critical habitat for the Gulf sturgeon. Further, there is an historic Flatwoods salamander with critical habitat in the vicinity of this wetland.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  Located within Flatwoods Salamander critical habitat unit.			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 10/1/2011, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 5 - SS/WP
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2011, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	This wetland polygon is adjacent to undeveloped land to the north, south, east, and west. There is no direct limitation to wildlife movement to and from this polygon; however, Munson Highway is located in close proximity to the western boundary. This wetland is connected to the Clear Creek system primarily through a drainage ditch.
w/o pres or current	
with	
9	0

.500(6)(b)Water Environment (n/a for uplands)	This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for direct impact by Corridor 1 or Corridor 2. Culverts or elevated roadways will be placed at appropriate sections of this or the adjacent basin swamp polygon to prevent damming and subsequent ponding of water, which would alter the wetlands outside of the corridor areas.
w/o pres or current	
with	
8	0

.500(6)(c)Community structure	The canopy in this wetland has approximately 80-100 trees per acre which is too dense for a typical seepage slope / wet prairie. The dense canopy and fire-suppressed shrub layer have shaded out the typically diverse groundcover vegetation. Typically, fires would manage these wetlands creating an open canopy and sub-canopy and encouraging growth of a diverse pyrogenic herbaceous groundcover. This polygon is proposed for direct impact by either Corridor 1 or Corridor 2.
1. Vegetation and/or	
2. Benthic Community	
w/o pres or current	with
8	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
w/o pres	with
0.83	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 5.29

Delta = [with-current]
0.83

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description**  
**(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 6
FLUCCs code 617	Further classification (optional) Basin Swamp		Impact or Mitigation Site? Impact (Direct)
			Assessment Area Size 3.34
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This is an interior, deeper wetland that is buffered on either side by seepage slope / wet prairie. The wetlands convey water to the south towards the Blackwater River via overland sheetflow.			
Assessment area description This basin wetland is fire suppressed with an appropriate mix of canopy and subcanopy species, but with a shrub layer of woody species that would typically be in coppice if fire regularly maintained this area. The polygon is also bisected by an east-west running powerline ROW.			
Significant nearby features Blackwater Heritage Trail, Frosted Flatwoods Salamander Critical Habitat Unit RFS2 Subunit A, and Munson Highway		Uniqueness (considering the relative rarity in relation to the regional landscape.) None	
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the river is listed as critical habitat for the Gulf sturgeon. Further, there is an historic Flatwoods salamander with critical habitat in the vicinity of this wetland.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 10/1/2011, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 6 - Basin Swamp
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2011, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	This wetland polygon is buffered by adjacent seepage slope/wet prairie and is undeveloped along 75% of its boundary. There are partial limitations to wildlife utilization due to the proximity of residential development. The habitat value has been slightly altered by the powerline ROW; however, there are no impediments downstream of this polygon and water flows via overland sheet flow to the Blackwater River an OFW. This area is proposed for impact by either Corridor 1 or Corridor 2. Flow characteristics will be maintained using culverts beneath the roadway.
w/o pres or current	with
8	0

.500(6)(b)Water Environment (n/a for uplands)	This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for direct impact by Corridor 1 or Corridor 2. Culverts or elevated roadways will be placed at appropriate sections of this or the adjacent basin swamp polygon to prevent damming and subsequent ponding of water, which would alter the wetlands outside of the corridor areas. Approximately 1/3 of the this polygon has been disturbed as a powerline ROW.
w/o pres or current	with
8	0

.500(6)(c)Community structure	The canopy within the non-disturbed portion of this polygon are appropriate; however, approximately 1/3 of the polygon area is maintained as a powerline easement and there is no canopy due to continual maintenance. Further, there is rutting within the power line where vegetation is not growing.
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
7	0

Score = sum of above scores/30 (if uplands, divide by 20)
current
or w/o pres
with
0.77
0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 2.56

Delta = [with-current]
0.77

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number		Assessment Area Name or Number Polygon 7	
FLUCCs code 643		Further classification (optional) Seepage Slope / Wet Prairie		Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 4.55
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This polygon is adjacent to residential development, Munson Highway, and the powerline . Due to the adjacent development ditches have been excavated through the wetlands. Water flows from the wetlands through the ditches west towards Clear Creek.					
Assessment area description This SS/WP has been affected by the adjacent residential development and the powerline ROW. The polygon has been ditched which changes the outflow of the water; however, the maintenance within the powerline ROW has increased species diversity in the groundcover.					
Significant nearby features Blackwater Heritage Trail, Frosted Flatwoods Salamander Critical Habitat Unit RFS2 Subunit A, and Munson Highway			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plants species such as sundews, pitcher plants. There is anticipated utilization by black bear and the river is listed as critical habitat for the Gulf sturgeon. Further, there is an historic Flatwoods salamander with critical habitat in the vicinity of this wetland.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):					
Additional relevant factors:  none					
Assessment conducted by: Dan Van Nostrand			Assessment date(s): 10/1/2011, update February 2013		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 7 - Seepage Slope/Wet Prairie
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2011, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>0</td> </tr> </table>	7	0	<p>This wetland polygon is adjacent to undeveloped land to the north, south, east, and west. There is no direct limitation to wildlife movement to and from this polygon; however, Munson Highway is located in close proximity to the western boundary. This wetland is connected to the Clear Creek system primarily through a drainage ditch.</p>
7	0		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>8</td> <td>0</td> </tr> </table>	8	0	<p>This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for a direct impact by Corridor 1 or Corridor 2.</p>
8	0		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>0</td> </tr> </table>	7	0	<p>The canopy within the non-disturbed portion of this polygon are appropriate; however, approximately 1/2 of the polygon area is maintained as a powerline easement and there is no canopy due to continual maintenance. This area is proposed for a direct impact by either corridor 1 or Corridor 2.</p>
7	0		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.73      0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 3.34

Delta = [with-current]
0.73

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number		Assessment Area Name or Number Polygon 8	
FLUCCs code 643		Further classification (optional) Seepage Slope / Wet Prairie		Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 2.34
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This polygon is to the west of Munson Highway and directly borders the floodplain of Clear Creek. There are no obstructions to water flow from this wetland, to the floodplain, and eventually to Pensacola Bay.					
Assessment area description This SS/WP is surrounded by undeveloped land, but has been partially impacted by mechanical clearing along the powerline ROW. The mechanical clearing has mimicked fire and increased plant diversity in the groundcover. The remainder of this polygon is fire suppressed with a dense pine canopy.					
Significant nearby features Munson Highway, Clear Creek.			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions This wetlands provides water filtration, water retention, foraging , habitat for wildlife, and creek buffer.			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) observed threatened plant species such as sundews, pitcher plants. There is anticipated utilization by black bear		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):					
Additional relevant factors:  none					
Assessment conducted by: Dan Van Nostrand			Assessment date(s): October 2012, update February 2013		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 8 - Seepage Slope/Wet Prairie
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: October 2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>0</td> </tr> </table>	9	0	<p>This wetland polygon is adjacent to undeveloped land to the north, south, east, and west. It buffers the floodplain of Clear Creek. There is no direct limitation to wildlife movement to and from this polygon; however, Munson Highway is located in close proximity to the eastern boundary. This wetland borders the floodplain bottomland forest associated with Clear Creek and provides direct water input to the creek system and eventually Blackwater River (OFW) and Pensacola Bay. There are no barriers to the movement of water into the creek system. This wetland is proposed for a direct impact for the Clear Creek bridge approaches. The open water portion of the stream will be bridged.</p>
9	0		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>8</td> <td>0</td> </tr> </table>	8	0	<p>This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for a direct impact by Corridor 1 or Corridor 2.</p>
8	0		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>0</td> </tr> </table>	7	0	<p>The canopy within the non-disturbed portion of this polygon are appropriate; however, approximately 1/2 of the polygon area is maintained as a powerline easement and there is no canopy due to continual maintenance. This area is proposed for a direct impact for the bridge approach.</p>
7	0		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.8      0.00

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 1.87

Delta = [with-current]
0.80

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 9
FLUCCs code 615	Further classification (optional) Bottomland Forest		Impact or Mitigation Site? Impact (Shading)
			Assessment Area Size 1.08
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This polygon includes Clear Creek and the Clear Creek floodplain and is therefore directly connected via surface flow to the Blackwater River further downstream.			
Assessment area description This floodplain/bottomland forest is relatively intact even though it is adjacent to residential development and the powerline ROW. The canopy is a mixture of hardwood evergreens and deciduous trees. The understory is diverse and contains threatened endangered plant species.			
Significant nearby features Munson Highway, Clear Creek		Uniqueness (considering the relative rarity in relation to the regional landscape.) Blackwater Stream (Clear Creek) bisects the floodplain/bottomland forest.	
Functions The floodplains are high quality wetlands that collect and convey water to Pensacola Bay. The creek is highly utilized by wildlife for cover and foraging. The intact floodplain helps prevent erosion, regulate water temperature, and maintain in-creek habitats.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) The floodplain/bottomland forest is diverse and contains many state threatened plant species such as sundews, pitcher plants, bluestem, meadow beauty, and yellow-eyed grass. There is anticipated utilization by black bear. Clear Creek is not listed as Critical Habitat for the Gulf sturgeon or the reticulated Flatwoods salamander.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 9/1/2012, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 9 - Clear Creek Floodplain/Bottomland Forest
Impact or Mitigation Impact (Shading)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 9/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	The floodplain bottomland forest is bordered on the west by low density residential development and agriculture and by undeveloped land to the north, south, and east. There is little impediment to wildlife movement into this polygon. The wetland directly supports and maintains the water quality, temperature, and structure of Clear Creek. There are no impediments to water flow between the floodplain and the creek. This area is proposed for a shading impact since a bridge will be constructed over the floodplain and the creek. There are no anticipated significant impacts with bridge construction.
w/o pres or current	with
9	8

.500(6)(b)Water Environment (n/a for uplands)	The creek appears to have excellent water quality, appropriate water inputs, and evidence of a typical flooding regime. The floodplain wetlands adjacent to the creek provide adequate water filtration and stabilize the soil to prevent erosion. The water flow in the creek is currently unobstructed. The use of a bridge will help keep the floodplain vegetation intact to continue to stabilize the soil surface. There will also be stormwater controls on the bridge to collect untreated stormwater and convey it to treatment ponds. The piling supported bridge will not significantly impact the flow of the river.
w/o pres or current	with
10	8

.500(6)(c)Community structure	The floodplain area has a high diversity of canopy and subcanopy species. Portions of the polygon have been cleared and maintained as a powerline ROW. ERC located several threatened/endangered plant species in the groundcover. The development plan will take the threatened species locations into account and any impacts will be minimized to the maximum extent practicable.
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
8	6

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	with
0.90	0.73

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.18

Delta = [with-current]
0.17

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 9A
FLUCCs code 615	Further classification (optional) Bottomland Forest		Impact or Mitigation Site? Impact (Direct)
Assessment Area Size 2.50			
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands  This polygon includes the Clear Creek floodplain and is therefore directly connected via surface flow to the Blackwater River further downstream.			
Assessment area description  This floodplain/bottomland forest is relatively intact even though it is adjacent to residential development and the powerline ROW. The canopy is a mixture of hardwood evergreens and deciduous trees. The understory is diverse and contains threatened endangered plant species.			
Significant nearby features  Munson Highway, Clear Creek		Uniqueness (considering the relative rarity in relation to the regional landscape.)  Blackwater Stream (Clear Creek) bisects the floodplain/bottomland forest.	
Functions The floodplains are high quality wetlands that collect and convey water to Pensacola Bay. The creek is highly utilized by wildlife for cover and foraging. The intact floodplain helps prevent erosion, regulate water temperature, and maintain in-creek habitats.		Mitigation for previous permit/other historic use  N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found )  Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)  The floodplain/bottomland forest is diverse and contains many state threatened plant species such as sundews, pitcher plants, bluestem, meadow beauty, and yellow-eyed grass. There is anticipated utilization by black bear. Clear Creek is not listed as Critical Habitat for the Gulf sturgeon or the reticulated Flatwoods salamander.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):			
Additional relevant factors:  none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 9/1/2012, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 9A - Clear Creek Floodplain/Bottomland Forest
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 9/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	The floodplain bottomland forest is bordered on the west by low density residential development and agriculture and by undeveloped land to the north, south, and east. There is little impediment to wildlife movement into this polygon. The wetland directly supports and maintains the water quality, temperature, and structure of Clear Creek. There are no impediments to water flow between the floodplain and the creek. This area is proposed for a direct impact for the bridge approaches; however, the open water portion of the creek will be bridged.
w/o pres or current	with
9	0

.500(6)(b)Water Environment (n/a for uplands)	The creek appears to have excellent water quality, appropriate water inputs, and evidence of a typical flooding regime. The floodplain wetlands adjacent to the creek provide adequate water filtration and stabilize the soil to prevent erosion. The water flow in the creek is currently unobstructed. The use of a bridge over the open water portion of the creek will minimize upstream flooding. This floodplain/bottomland forest polygon is proposed for direct impact for the bridge approaches.
w/o pres or current	with
10	0

.500(6)(c)Community structure	The floodplain area has a high diversity of canopy and subcanopy species. Portions of the polygon have been cleared and maintained as a powerline ROW. ERC located several threatened/endangered plant species in the groundcover. The development plan will take the threatened species locations into account and any impacts will be minimized to the maximum extent practicable. This polygon is proposed for a direct impact for the bridge approaches.
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
8	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	
with	
0.90	0.00

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 2.25

Delta = [with-current]
0.90

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 10
FLUCCs code 617	Further classification (optional) FNAI - Basin Swamp		Impact or Mitigation Site? Impact (Direct)
			Assessment Area Size 2.75
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This is an interior, deeper wetland that is buffered on either side by seepage slope / wet prairie. The wetlands convey water to the south towards the Blackwater River via overland sheetflow.			
Assessment area description This basin wetland is fire suppressed within half of the area and the other half has been cleared, but with a shrub layer of woody species that would typically be in coppice if fire regularly maintained this area. The polygon is also bisected by an east-west running powerline ROW.			
Significant nearby features None		Uniqueness (considering the relative rarity in relation to the regional landscape.) None	
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) White topped pitcher plant was observed in this wetland and it is anticipated that other threatened plant species would be present with periodic fire. This area is also most likely used by the black bear population in the vicinity.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None during field surveys			
Additional relevant factors: none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 10/1/2012, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 PD&E	Application Number	Assessment Area Name or Number Polygon 10 - Basin Swamp
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	This wetland polygon is bordered by undeveloped land to the west and north, agricultural lands and powerline ROW to the south and agricultural lands to the east. Portions of this polygon have been cleared which decrease their value for wildlife utilization. The proximal residential development and adjacent agricultural lands somewhat limit the wildlife movement to and from this polygon. The adjacent wet prairie / seepage slope has been ditched, which affects the localized water flow to and from the basin swamp. This area is proposed for a direct impact by either alternative 1 or alternative 2.			
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td>6</td> <td>0</td> </tr> </table>		w/o pres or current	with	6
w/o pres or current	with			
6	0			

.500(6)(b)Water Environment (n/a for uplands)	This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice and because the canopy and subcanopy have been cleared within the powerline ROW and agricultural area. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for direct impact by alternative 1 or alternative 2. Culverts or elevated roadways will be placed at appropriate sections of this or the adjacent basin swamp polygon to prevent damming and subsequent ponding of water, which would alter the wetlands outside of the corridor areas.			
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td>7</td> <td>0</td> </tr> </table>		w/o pres or current	with	7
w/o pres or current	with			
7	0			

.500(6)(c)Community structure	The majority of this basin swamp polygon has been disturbed by clearing either for agricultural operations or for powerline ROW maintenance. The cleared portions lack the appropriate canopy, but have diverse groundcover due to the light penetration to the ground. Typical basin swamps would have diverse canopies and varied groundcover in gaps between canopy. This polygon is proposed for direct impact by either alternative 1 or alternative 2.			
<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td>6</td> <td>0</td> </tr> </table>		w/o pres or current	with	6
w/o pres or current	with			
6	0			

Score = sum of above scores/30 (if uplands, divide by 20)				
<table border="1"> <tr> <td>current or w/o pres</td> <td>with</td> </tr> <tr> <td>0.63</td> <td>0</td> </tr> </table>	current or w/o pres	with	0.63	0
current or w/o pres	with			
0.63	0			

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 1.74

Delta = [with-current]
0.63

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number		Assessment Area Name or Number Polygon 11	
FLUCCs code 643		Further classification (optional) FNAI - Seepage Slope / Wet Prairie		Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 8.14
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands The seepage slope / wet prairie drains southeast toward the Blackwater River via overland sheetflow and through a confined ditch that appears to be excavated through the adjacent agricultural field.					
Assessment area description The ss/wp is fire suppressed and has a dense canopy of pine and bay trees and the remainder has been maintained as a powerline ROW and agricultural field.					
Significant nearby features None			Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) White topped pitcher plant was observed in this wetland and it is anticipated that other threatened plant species would be present with periodic fire. This area is also most likely used by the black bear population in the vicinity.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None during field surveys					
Additional relevant factors: none					
Assessment conducted by: Dan Van Nostrand			Assessment date(s): 10/1/2012, update February 2013		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 PD&E	Application Number	Assessment Area Name or Number Polygon 11 - Seepage Slope/Wet Prairie
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>0</td> </tr> </table>	7	0	<p>This wetland polygon is adjacent to undeveloped land to the north, east, and west and is bordered by the powerline ROW and an agricultural field to the south. There is minor limitation to wildlife movement to and from this polygon due to the agricultural land. This wetland is connected south through wetlands and a confined ditch through the agricultural land. This wetland is proposed for direct impact by either alternative 1 or alternative 2.</p>
7	0		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>8</td> <td>0</td> </tr> </table>	8	0	<p>This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for a direct impact by alternative 1 or alternative 2.</p>
8	0		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>0</td> </tr> </table>	7	0	<p>The canopy within the non-disturbed portion of this polygon are appropriate; however, approximately 1/2 of the polygon area is maintained as a powerline easement and there is no canopy due to continual maintenance. This area is proposed for a direct impact by either alternative 1 or alternative 2.</p>
7	0		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.73      0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 5.97

Delta = [with-current]
0.73

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E - Alternative 1 only		Application Number	Assessment Area Name or Number Polygon 12
FLUCCs code 630	Further classification (optional) FNAI - Dome Swamp		Impact or Mitigation Site? Impact (Direct)
			Assessment Area Size 1.43
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands  This is an isolated wetland system that is surrounded by well drained sandhill uplands.			
Assessment area description  This dome swamp wetland is fire suppressed on the exterior with an appropriate mix of canopy and subcanopy species in the center. If fire periodically burned this wetland, the out rim would contain more herbaceous species than the current woody coverage.			
Significant nearby features  SR 87 North		Uniqueness (considering the relative rarity in relation to the regional landscape.)  None	
Functions  This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use  N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found )  Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)  No threatened or endangered species were observed in this polygon area, but it is anticipated that a similar plant composition to the other basin wetlands would exist with more frequent fires.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):  None during field survey			
Additional relevant factors:  none			
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 10/1/2011, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E - Alternative 1 only	Application Number	Assessment Area Name or Number Polygon 12 - Dome Swamp
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2011, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	This is a geographically isolated wetland that has unlimited wildlife access to the east, south, and west and still provides the functions to wildlife and downstream wetlands that it would provide in optimal condition. The fire suppressed understory slightly limits the wildlife utilization of this wetland system; however it is suitable habitat for many breeding amphibians and reptiles since there is evidence that it fill with water ephemerally and does not contain fish. This wetland is proposed for direct impact by alternative 1.
w/o pres or current	with
9	0

.500(6)(b)Water Environment (n/a for uplands)	This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod that is suitable for many species that require ephemeral ponds as a component of their life cycles. The wetland lacks community zonation along the ecotone adjacent to the upland because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. This wetland is proposed for direct impact by alternative 1.
w/o pres or current	with
9	0

.500(6)(c)Community structure	The canopy of this wetland is appropriate; however the groundcover should be diverse along the ecotone but is not due to the fire suppressed shrub and sub-canopy. This polygon is proposed for direct impact by alternative 1.
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	
8	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
w/o pres	with
0.87	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 1.24

Delta = [with-current]
0.87

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E - Alternative 1 only		Application Number	Assessment Area Name or Number Polygon 13	
FLUCCs code 643	Further classification (optional) Seepage Slope / Wet Prairie		Impact or Mitigation Site? Impact (Direct)	Assessment Area Size 0.25
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands This seepage slope / wet prairie polygon is bisected by a dirt road and connected under the road via a culvert; however, the wetland is isolated.				
Assessment area description The ss/wp is fire suppressed, has been bisected by a dirt road, and has been cleared.				
Significant nearby features SR 87 North		Uniqueness (considering the relative rarity in relation to the regional landscape.) None		
Functions This wetlands provides water filtration, water retention, foraging and habitat for wildlife.		Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Black bear, deer, armadillo, amphibians, birds, reptiles, small mammals, invertebrates within the river		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) No T&E plant species were observed within this wetland; however, with appropriate management it is expected that there would be higher species diversity.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None during field survey				
Additional relevant factors: none				
Assessment conducted by: Dan Van Nostrand		Assessment date(s): 10/1/2011, update February 2013		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E - Alternative 1 only	Application Number	Assessment Area Name or Number Polygon 13 - Seepage Slope/Wet Prairie
Impact or Mitigation Impact (Direct)	Assessment conducted by: Daniel Van Nostrand	Assessment date: 10/1/2011, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>6</td> <td>0</td> </tr> </table>	6	0	<p>This wetland polygon is adjacent to undeveloped land and low density residential development. There is minor limitation to wildlife movement to and from this polygon due to the residential land. This wetland is isolated and has been cut in half by Oakland Drive, a dirt road. There is a culvert beneath the road; however it has impacted the normal flow patter within the wetland. This wetland is proposed for direct impact by alternative 1..</p>
6	0		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>0</td> </tr> </table>	7	0	<p>This wetland has appropriate hydrophytic vegetation and appears to support the appropriate hydroperiod. The wetland lacks community zonation because the fire regime is not adequate to maintain the subcanopy and shrub strata woody species as coppice. There is no evidence of siltation in this wetland from surrounding land uses. There are hydric soils present. This area is proposed for a direct impact by alternative1.</p>
7	0		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>6</td> <td>0</td> </tr> </table>	6	0	<p>The canopy within the non-disturbed portion of this polygon are appropriate; however, approximately 1/2 of the polygon area has been cleared and there is no canopy due to continual maintenance. This area is proposed for a direct impact bye either alternative 1.</p>
6	0		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.63      0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.16

Delta = [with-current]
0.63

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E - Alternative 1 only		Application Number	Assessment Area Name or Number Polygon 14
FLUCCs code 643	Further classification (optional) Seepage Slope / Wet Prairie		Impact or Mitigation Site? Secondary and Cumulative Impacts adjacent to shading impacts
Assessment Area Size 60.07			
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) N/A	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetlands within this secondary and cumulative impact polygon are adjacent to the proposed bridges on the Blackwater River, Clear Creek, and the reticulated Flatwoods salamander critical habitat area. All wetlands directly connect to either the Blackwater River or Clear Creek via surface water sheet flow.			
Assessment area description These wetlands are similar in habitat quality to impact polygons 1, 3, 4, 8, and 9. The wetlands areas contain Bottomland Hardwood and Wet Prairie habitats.			
Significant nearby features Blackwater River, Coldwater Creek, RFS2 Critical Habitat, Munson Highway, Blackwater Heritage Trail		Uniqueness (considering the relative rarity in relation to the regional landscape.)	
Functions Water filtration, sediment stabilization, wildlife habitat, river and creek buffer		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Migratory birds, small-medium-large mammals, reptiles, amphibians		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) many threatened plant species ( sundews, pitcher plants, lily, etc.), Flatwoods salamander, black bear.	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None during field survey			
Additional relevant factors:			
Assessment conducted by: Daniel Van Nostrand		Assessment date(s): 9/1/2012, update February 2013	

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 14 - S/C Impacts (shading)
Impact or Mitigation Secondary and Cumulative Impacts Shading	Assessment conducted by: Daniel Van Nostrand	Assessment date: 9/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>8</td> </tr> </table>	9	8	<p>This secondary and cumulative wetland polygon is adjacent to proposed shading impacts from the bridges over the Blackwater River, Clear Creek, and the RFS2 Critical Habitat unit. There is minor limitation to wildlife movement to and from this polygon due to the residential land. Due to the minimization of impacts by bridging there will be minor impacts to the location and landscape support.</p>
9	8		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>10</td> <td>10</td> </tr> </table>	10	10	<p>Due to the minimization of impacts by bridging these wetlands and collecting stormwater, there will be no impacts to wetlands outside of the direct bridge footprint.</p>
10	10		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>9</td> <td>8</td> </tr> </table>	9	8	<p>There will be minor secondary and cumulative impacts to vegetation outside of the bridge footprint during the construction process; however, it is anticipated that the wetlands in these polygons will regenerate with native, wetland vegetation soon after the construction occurs.</p>
9	8		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.93      0.87

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 4.00

Delta = [with-current]
0.07

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description  
(See Section 62-345.400, F.A.C.)**

Site/Project Name SR 87 Connector PD&E		Application Number	Assessment Area Name or Number Polygon 15	
FLUCCs code 643, 617, & 630		Further classification (optional) Seepage Slope / Wet Prairie, Basin Swamp, and Dome Swamp		Impact or Mitigation Site? Secondary & Cumulative adjacent to direct impacts
				Assessment Area Size Alt. 1 = 79.33 & Alt. 2 = 73.94
Basin/Watershed Name/Number Blackwater River	Affected Waterbody (Class) III	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) N/A		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetlands within this secondary and cumulative impact polygon are adjacent to the proposed direct wetland impacts within the corridor areas. All wetlands directly connect to either the Blackwater River or Clear Creek via surface water sheet flow or through ditches.				
Assessment area description These wetlands are similar in habitat quality to impact polygons 2, 5, 6, 7, 10, 11, 12 and 13. The wetlands areas contain seepage slopes/wet prairies, basin swamps, and dome swamps.				
Significant nearby features SR 87 North, Munson Highway, Blackwater River, Coldwater Creek, RFS2 Critical Habitat, Munson Highway, Blackwater Heritage Trail		Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions Water filtration, sediment stabilization, wildlife habitat, river and creek buffer		Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) Migratory birds, small-medium-large mammals, reptiles, amphibians		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) many threatened plant species ( sundews, pitcher plants, lily, etc.) and black bear.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None during field survey				
Additional relevant factors:				
Assessment conducted by: Daniel Van Nostrand		Assessment date(s): 9/1/2012, update February 2013		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

Site/Project Name SR 87 Connector PD&E	Application Number	Assessment Area Name or Number Polygon 15 - S/C Impacts
Impact or Mitigation Secondary and Cumulative Impacts Adjacent to Direct Impact Areas	Assessment conducted by: Daniel Van Nostrand	Assessment date: 9/1/2012, update February 2013

<b>Scoring Guidance</b> The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed
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<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>8</td> <td>6</td> </tr> </table>	8	6	<p>This secondary and cumulative wetland polygon is adjacent to proposed direct impacts from the proposed corridor alternatives. The new roadway will limit wildlife movement within the general vicinity cause more likelihood of vehicular deaths to wildlife. Further, water flows may be altered due to required water collection and conveyance for roadway features changing inputs downstream.</p>
8	6		
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>8</td> <td>4</td> </tr> </table>	8	4	<p>Due to the proposed project impacts, flow between wetlands on either side of the proposed corridor will be altered from its current state.</p>
8	4		
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>w/o pres or current      with</p> <table border="1"> <tr> <td>7</td> <td>6</td> </tr> </table>	7	6	<p>There will be only minor impacts to the vegetative structure of the wetlands in the secondary and cumulative impact polygons during construction. Following construction it is anticipated that any disturbed vegetation will regenerate with native wetland vegetation; however, a new roadway introduces a vector for the dispersal of invasive plant species.</p>
7	6		

Score = sum of above scores/30 (if uplands, divide by 20)
current or w/o pres      with
0.77      0.53

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = <b>Alt. 1: 18.51 &amp; Alt. 2: 17.25</b>

Delta = [with-current]
0.23

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =



## Conceptual Mitigation Plan

Preliminary evaluation of potential wetland impacts followed the Uniform Mitigation Assessment Methodology (UMAM) and indicated that alignment 1 will result in 53.25 units of functional wetland loss, and alignment 2 will result in 50.60 units of functional wetland loss. Unavoidable impacts to wetlands can be mitigated through the privately owned Pensacola Bay Mitigation Bank (PBMB) or through either of two In-Lieu Fee sites operated by Northwest Florida Water Management District (NFWFMD). The In-Lieu Fee Program is intended to provide mitigation credits when a mitigation bank is not available and is not intended to compete with existing mitigation banks. Informal guidance instructs that mitigation should be pursued through available mitigation banks before mitigation is pursued through In-Lieu Fee sites. Descriptions of each property and available mitigation credits are provided below and summarized in **Table 1**.

Table 1. Mitigation Credit Availability

Source of Mitigation	Current Credit Balance
Pensacola Bay Mitigation Bank	118.24 forested wetland* and 4.56 emergent wetland*
Yellow River Ranch	10.14
Dutex Site	43.29

\*Expected to Increase

The PBMB covers 1,205 acres in Santa Rosa County contiguous with the Florida Forever Acquisition Area called the Garcon Ecosystem Preserve. The PBMB service area covers the Pensacola Bay watershed as well as portions of the Escambia, Blackwater, and Choctawhatchee watersheds (**Figure 1**). The PBMB received state authorization from Florida Department of Environmental Protection (FDEP) with an initial potential of 159.83 wet flatwoods/wet prairie UMAM credits and 37.70 forested wetland UMAM credits (FDEP Permit No. 0284438-001). According to Environmental Resource Marketing, the representative of PBMB, the PBMB presently has 118.24 forested wetland credits and 4.56 emergent wetland credits available (as of April 11, 2015). They expect to have another 71 forested credits and 5 emergent credits in the future.

Mitigation credits can also be obtained through either of two NFWFMD In-Lieu Fee sites, the Yellow River Ranch Site or the Dutex Site. Both sites were acquired specifically for current and future FDOT wetland mitigation needs. In December 2005 NFWFMD acquired the 275-acre Yellow River Ranch property in Santa Rosa County. The Yellow River Ranch site is in the floodplain of the Yellow River, approximately 2 miles east of Highway 87 South. In June 2009 the NFWFMD acquired the 809.85 acre Dutex Mitigation Area. It is located on the north side of Perdido Bay in Escambia County, near Navy Outlying Field Saufley. Both sites were acquired specifically for current and future FDOT wetland mitigation needs.

According to ledgers for the NFWFMD In-Lieu Fee mitigation program that were last updated on March 20, 2015, the Yellow River Ranch site has 50.63 potential credits approved by the US Army Corps of Engineers (USACE) (no advance credits were approved). A total of 29.29 credits were released by the USACE, and 19.15 credits have been debited, yielding a current credit balance of 10.14 for the Yellow



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River Ranch Site. The Dutex site has 107.16 potential credits approved by USACE (No advance credits were approved). A total of 63.30 credits were released by the USACE, and 20.01 credits have been debited, yielding a current credit balance of 43.29 for the Dutex Site.

Adequate compensatory mitigation is currently available through the PBMB. Additionally, sufficient credits could be obtained from through the Yellow River Ranch and the Dutex sites. Construction for this project has not been funded through 2035 and the availability of credits cannot be forecast that far into the future.